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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,546	06/10/2005	Lawrence Sterling Young	66221-0048	5446

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RADER, FISHMAN & GRAUER PLLC
39533 WOODWARD AVENUE
SUITE 140
BLOOMFIELD HILLS, MI 48304-0610

EXAMINER	
SANG, HONG	

ART UNIT	PAPER NUMBER
1643	

MAIL DATE	DELIVERY MODE
08/27/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/538,546	YOUNG ET AL.	
	Examiner	Art Unit	
	Hong Sang	1643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 November 2007*.

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *29-66* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *29-66* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

RE: Young et al.

1. The examiner of your application in the PTO has changed. To aid in correlating of any papers for this application, all further correspondence regarding this application should be directed to Hong Sang, Art Unit: 1643.

2. The prior office action mailed on 9/28/2007 has been vacated in favor of the following action.

Election/Restrictions

3. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I claim(s) 29, 31-34, 36-39, 41-43, 45-47, 49, and 50, drawn in part to a host cell for the treatment of cancer that is transfected or transduced with one or more of a polycomb protein, or an immunogenic peptide or epitope derived therefrom, an isolated polynucleotide encoding said protein, peptide or epitope, a vector comprising the polynucleotide, a vaccine comprising an isolated polynucleotide encoding said protein, peptide or epitope, and a vaccine comprising a host cell transfected or transduced with one or more of a polycomb protein, or an immunogenic peptide or epitope derived therefrom, wherein the polycomb protein is Enx/EZH2

Group II claim(s) 29, 32-34, 37-39, 42, 43, 46, 47, and 50, drawn in part to a host cell for the treatment of cancer that is transfected or transduced with one or more of a polycomb protein, or an immunogenic peptide or epitope derived therefrom, an isolated polynucleotide encoding said protein, peptide or epitope, a vector comprising the polynucleotide, a vaccine comprising an isolated polynucleotide encoding said protein, peptide or

epitope, and a vaccine comprising a host cell transfected or transduced with one or more of a polycomb protein, or an immunogenic peptide or epitope derived therefrom, wherein the polycomb protein is EED.

Group III claim(s) 29, 30, 32-35, 37-40, 42-44, 46-48 and 50, drawn in part to a host cell for the treatment of cancer that is transfected or transduced with one or more of a polycomb protein, or an immunogenic peptide or epitope derived therefrom, an isolated polynucleotide encoding said protein, peptide or epitope, a vector comprising the polynucleotide, a vaccine comprising an isolated polynucleotide encoding said protein, peptide or epitope, and a vaccine comprising a host cell transfected or transduced with one or more of a polycomb protein, or an immunogenic peptide or epitope derived therefrom, wherein the polycomb protein is BMI-1.

Group IV claim(s) 29, 32-34, 37-39, 42, 43, 46, 47, and 50, drawn in part to a host cell for the treatment of cancer that is transfected or transduced with one or more of a polycomb protein, or an immunogenic peptide or epitope derived therefrom, an isolated polynucleotide encoding said protein, peptide or epitope, a vector comprising the polynucleotide, a vaccine comprising an isolated polynucleotide encoding said protein, peptide or epitope, and a vaccine comprising a host cell transfected or transduced with one or more of a polycomb protein, or an immunogenic peptide or epitope derived therefrom, wherein the polycomb protein is RING-1

Group V claim(s) 29, 32-34, 37-39, 42, 43, 46, 47, and 50, drawn in part to a host cell for the treatment of cancer that is transfected or transduced with one or more of a polycomb protein, or an immunogenic peptide or epitope derived therefrom, an isolated polynucleotide encoding said protein, peptide or epitope, a vector comprising the polynucleotide, a vaccine comprising an isolated polynucleotide encoding said protein, peptide or epitope, and a vaccine comprising a host cell transfected or transduced with one or more of a polycomb protein, or an immunogenic peptide or epitope derived therefrom, wherein the polycomb protein is HPH1.

Group VI claim(s) 29, 32-34, 37-39, 42, 43, 46, 47, and 50, drawn in part to a host cell for the treatment of cancer that is transfected or transduced with one or more of a polycomb protein, or an immunogenic peptide or epitope derived therefrom, an isolated polynucleotide encoding said protein, peptide or epitope, a vector comprising the polynucleotide, a vaccine comprising an isolated polynucleotide encoding said protein, peptide or epitope, and a vaccine comprising a host cell transfected or transduced with one or more of a polycomb protein, or an immunogenic peptide or epitope derived therefrom, wherein the polycomb protein is HPH2

Group VII claim(s) 29, 32-34, 37-39, 42, 43, 46, 47, and 50, drawn in part to a host cell for the treatment of cancer that is transfected or transduced with one or more of a polycomb protein, or an immunogenic peptide or epitope derived therefrom, an isolated polynucleotide encoding said protein, peptide or epitope, a vector comprising the polynucleotide, a vaccine comprising an isolated polynucleotide encoding said protein, peptide or epitope, and a vaccine comprising a host cell transfected or transduced with one or more of a polycomb protein, or an immunogenic peptide or epitope derived therefrom, wherein the polycomb protein is HPC3.

Group VIII claim(s) 29, 32-34, 37-39, 42, 43, 46, 47, and 50, drawn in part to a host cell for the treatment of cancer that is transfected or transduced with one or more of a polycomb protein, or an immunogenic peptide or epitope derived therefrom, an isolated polynucleotide encoding said protein, peptide or epitope, a vector comprising the polynucleotide, a vaccine comprising an isolated polynucleotide encoding said protein, peptide or epitope, and a vaccine comprising a host cell transfected or transduced with one or more of a polycomb protein, or an immunogenic peptide or epitope derived therefrom, wherein the polycomb protein is CtBP.

Group IX claim(s) 39, 41, and 42, drawn in part to a vaccine comprising one or more of a polycomb protein, or an immunogenic peptide or epitope derived therefrom, wherein the polycomb protein is Enx/EZH2

Group X claim(s) 39, 40, and 42, drawn in part to a vaccine comprising one or more of a polycomb protein, or an immunogenic peptide or epitope derived therefrom, wherein the polycomb protein is BMI-1.

Group XI claim(s) 51, 52, 54, and 61, drawn in part to a method of treating cancer comprising administering to a patient a vaccine composition comprising a polycomb protein, or an immunogenic peptide or epitope derived therefrom, wherein the polycomb protein is Enx/EZH2

Group XII claim(s) 51, 52, 54, and 61drawn in part to a method of treating cancer comprising administering to a patient a vaccine composition comprising a polycomb protein, or an immunogenic peptide or epitope derived therefrom, wherein the polycomb protein is EED.

Group XIII claim(s) 51-54, and 61, drawn in part to a method of treating cancer comprising administering to a patient a vaccine composition comprising a polycomb protein, or an immunogenic peptide or epitope derived therefrom, wherein the polycomb protein is BMI-1.

Group XIV claim(s) 51, 52, 54, and 61, drawn in part to a method of treating cancer comprising administering to a patient a vaccine composition comprising a polycomb protein, or an immunogenic peptide or epitope derived therefrom, wherein the polycomb protein is RING-1

Group XV claim(s) 51, 52, 54, and 61, drawn in part to a method of treating cancer comprising administering to a patient a vaccine composition comprising a polycomb protein, or an immunogenic peptide or epitope derived therefrom, wherein the polycomb protein is HPH1.

Group XVI claim(s) 51, 52, 54, and 61, drawn in part to a method of treating cancer comprising administering to a patient a vaccine composition comprising a polycomb protein, or an immunogenic peptide or epitope derived therefrom, wherein the polycomb protein is HPH2

Group XVII claim(s) 51, 52, 54, and 61, drawn in part to a method of treating cancer comprising administering to a patient a vaccine composition comprising a polycomb protein, or an immunogenic peptide or epitope derived therefrom, wherein the polycomb protein is HPC3.

Group XVIII claim(s) 51, 52, 54, and 61, drawn in part to a method of treating cancer comprising administering to a patient a vaccine composition comprising a polycomb protein, or an immunogenic peptide or epitope derived therefrom, wherein the polycomb protein is CtBP.

Group XIX claim(s) 51, 52, 54-61, 63, 64 and 66 drawn in part to a method of treating cancer comprising administering to a patient a vaccine composition comprising an isolated polynucleotide encoding a polycomb protein, or an immunogenic peptide or epitope derived therefrom, wherein the polycomb protein is Enx/EZH2

Group XX claim(s) 51, 52, 54-61, 64 and 66 drawn in part to a method of treating cancer comprising administering to a patient a vaccine composition comprising an isolated polynucleotide encoding a polycomb protein, or an immunogenic peptide or epitope derived therefrom, wherein the polycomb protein is EED.

Group XXI claim(s) 51-62, 64 and 66 drawn in part to a method of treating cancer comprising administering to a patient a vaccine composition comprising an isolated polynucleotide encoding a polycomb protein, or an immunogenic peptide or epitope derived therefrom, wherein the polycomb protein is BMI-1.

Group XXII claim(s) 51, 52, 54-61, 64 and 66, drawn in part to a method of treating cancer comprising administering to a patient a vaccine composition comprising an isolated polynucleotide encoding a polycomb protein, or an immunogenic peptide or epitope derived therefrom, wherein the polycomb protein is RING-1

Group XXIII claim(s) 51, 52, 54-61, 64 and 66 drawn in part to a method of treating cancer comprising administering to a patient a vaccine composition comprising an isolated polynucleotide encoding a polycomb protein, or an immunogenic peptide or epitope derived therefrom, wherein the polycomb protein is HPH1.

Group XXIV claim(s) 51, 52, 54-61, 64 and 66, drawn in part to a method of treating cancer comprising administering to a patient a vaccine composition comprising an isolated polynucleotide encoding a polycomb protein, or an immunogenic peptide or epitope derived therefrom, wherein the polycomb protein is HPH2

Group XXV claim(s) 51, 52, 54-61, 64 and 66, drawn in part to a method of treating cancer comprising administering to a patient a vaccine composition comprising an isolated polynucleotide encoding a polycomb protein, or an immunogenic peptide or epitope derived therefrom, wherein the polycomb protein is HPC3.

Group XXVI claim(s) 51, 52, 54-61, 64 and 66, drawn in part to a method of treating cancer comprising administering to a patient a vaccine composition comprising an isolated polynucleotide encoding a polycomb protein, or an immunogenic peptide or epitope derived therefrom, wherein the polycomb protein is CtBP.

Group XXVII claim(s) 64-66, drawn in part to a method of treating cancer comprising administering to a patient a vaccine composition comprising a host cell containing a polycomb protein, or an immunogenic peptide or epitope derived therefrom.

4. The inventions listed as Groups I-XXVII do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: the special technical feature linking the Groups I-XXVII appears to be a polycomb protein or a vector

comprising a polynucleotide encoding a polycomb protein (see claims 34 and 39 for example). The polycomb protein or the vector comprising a polynucleotide encoding a polycomb protein cannot be a special technical feature under PCT Rule 13.2 because it is shown in the prior art. Satjin et al. (Mol. Cell Biol. 1999, 19:57-68) teach a polynucleotide vector encoding a polycomb protein i.e. RING-1, and cells transfected with the vector comprising the RING-1 polynucleotide (see page 58, 1st column, 5th paragraph). Therefore the technical feature linking the inventions is not novel and does not provide contribution over the prior art. As such, unity of invention is lacking and the inventions are deemed to be separate.

5. This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species are as follows:

Different cancers: liver, lung, breast, stomach, colorectal, cervix, prostate, bladder, pancreas, brain, ovarian, melanoma, lymphoma, leukemia.

Applicant is required, in reply to this action, to elect a **single** species (i.e. single cancer) to which the claims shall be restricted if no generic claim is finally held to be allowable. The reply must also identify the claims readable on the elected species, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

The claims are deemed to correspond to the species listed above in the following manner: Claims 33, 38, 54 and 66.

The following claim(s) are generic: 29-32, 34-37, 39-53, and 55-65.

The species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the reasons set forth above.

6. Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of

record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C.103 (a) of the other invention.

7. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

8. The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and the product claims are subsequently found allowable, withdrawn process claims that depend from or otherwise require all the limitations of the allowable product claim will be considered for rejoinder. All claims directed a nonelected process invention must require all the limitations of an allowable product claim for that process invention to be rejoined.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103 and 112. Until all claims to the elected product are found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowable product claim will not be rejoined. See MPEP § 821.04(b). Additionally, in order to retain the right to rejoinder in accordance with the above policy, applicant is advised that the process claims should be amended during prosecution to require the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder**. Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hong Sang whose telephone number is (571) 272 8145. The examiner can normally be reached on 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry R. Helms can be reached on (571) 272-0832. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hong Sang

Hong Sang, Ph.D.
Art Unit 1643
1/15/08